

To: Louisiana Department of Environmental Quality

Regarding: Comments Regarding the Draft 2022 Louisiana Annual Monitoring Network Plan

AI Number 168755.

Emailed to: DEQ.PUBLICNOTICES@LA.GOV

From: The Greater New Orleans Climate Reality Project, Peter Digre, Co-Chair

Date: May 26, 2022

- 1. The attached comments were developed by and are submitted on behalf of Vickie Boothe, CDC, EPA (retired)**
- 2. Please respond to each of our comments. They have been listed by number for your convenience.**
- 3. Please conduct a series of Statewide Public Hearings to explain the plan to our citizens and elicit their input.**
- 4. Case Study Documenting Urgent Need for Additional PM2.5 Monitoring: St. John the Baptist Parish follows:**

Background:

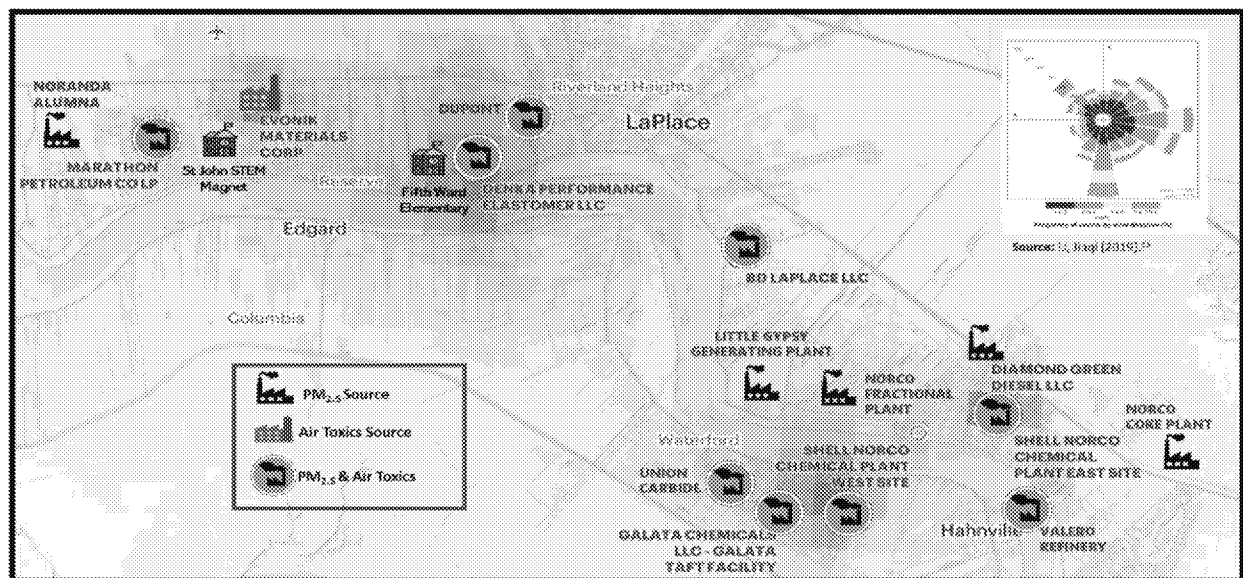
St. John the Baptist Parish is located in southern Louisiana, approximately 30 miles upriver from New Orleans. Home to a primarily black (58%) population of approximately 43,000, the parish lies at the heart of an 80-mile industrial corridor stretching between Baton Rouge and New Orleans along the Mississippi River, commonly known as Cancer Alley. Today, the corridor houses more than 200 refineries, plastic manufacturers, and petrochemical facilities.¹

The Environmental Protection Agency's (EPA), 2011 and 2014 National Air Toxics (NATA) Report, released in December 2015 and October 2018 respectively, identified neighborhoods within St. John Parish as having the nation's highest air toxics cancer risks (up to 50 times the national average), primarily driven by emissions of chloroprene from Dupont/Denka (85%) and ethylene oxide from the Union Carbide and Evonik-Reserve Reserve facilities.² Notably, although Blacks represent only 58% of St. John's total population, Blacks comprise 99% of the highest risk census tract located around Dupont/Denka.

In addition to having *the highest air toxics cancer risks in the nation*, St. John residents are exposed to multiple "hot spots" of fine particles, known as PM2.5. According to the Louisiana Department of Environmental Quality (LDEQ) Emission Inventory, in 2018 14 large petrochemical plants located upwind of St. John neighborhoods including Marathon Refinery and Dupont/Denka released more than 137 tons of Air Toxics (EPA-identified hazardous air pollutants (HAPS)) and a staggering 1,613 tons of primary PM2.5.

emissions (Figure A).

Figure A



EPA has determined PM_{2.5} exposures **cause** premature cardiovascular, respiratory, and lung cancer deaths; heart disease and acute myocardial infarctions (AMI); asthma onset and exacerbations; and respiratory infections.³ A large and rapidly growing body of literature has also linked PM_{2.5} and air toxics exposures to excess COVID-19 deaths and hospitalizations.^{4,5,6}

Documented St. John Air Pollution-related Health Disparities

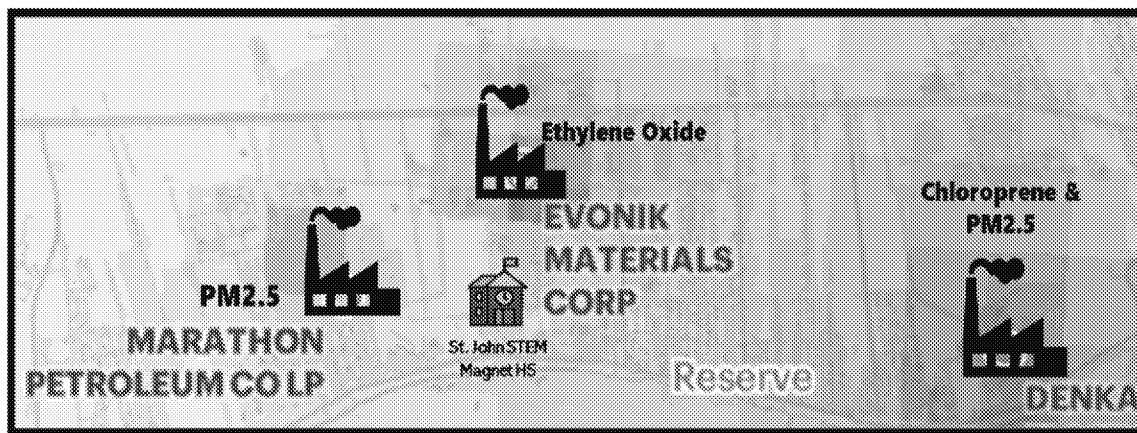
- **St. John Elementary School Student Asthma Outbreaks**

In response to a formal request, in September 2015, the Louisiana Office of Public Health (LPH) conducted a site visit at East St. John Elementary School to investigate two separate outbreaks of asthma-like respiratory symptoms and numerous student complaints reported to the school nurse including “stomach aches, headaches, sore throat, chest tightness, vomiting, burning eyes/nose, dizziness, fever, nausea, and weakness.”⁷

The LPH investigation report found, **“The school is located in a high-risk area situated among several industrial facilities that produce air-borne particulates** and the risk of chemical releases.” Proximate industrial facilities include *Evonik-Reserve*, one of the nation’s top 25 sources of EtO emissions,⁸ located 0.6 miles away and Louisiana’s 9th largest source of PM_{2.5} (370 tons/year), *Marathon Refinery Garyville*,⁹ located approximately 1 mile away. In 2018, these and 13 additional large petrochemical plants located directly upwind of St. John neighborhoods released a staggering 1,505 tons of primary PM_{2.5} emissions.¹⁸

As LPH recommended, East St. John Elementary School was subsequently relocated. *However, the former location is now home to the St. John STEM Magnet School (Figure B) founded in 2018 and attended by 200 primarily minority high school students (77% minority, 70% Black).*¹⁹

Figure B

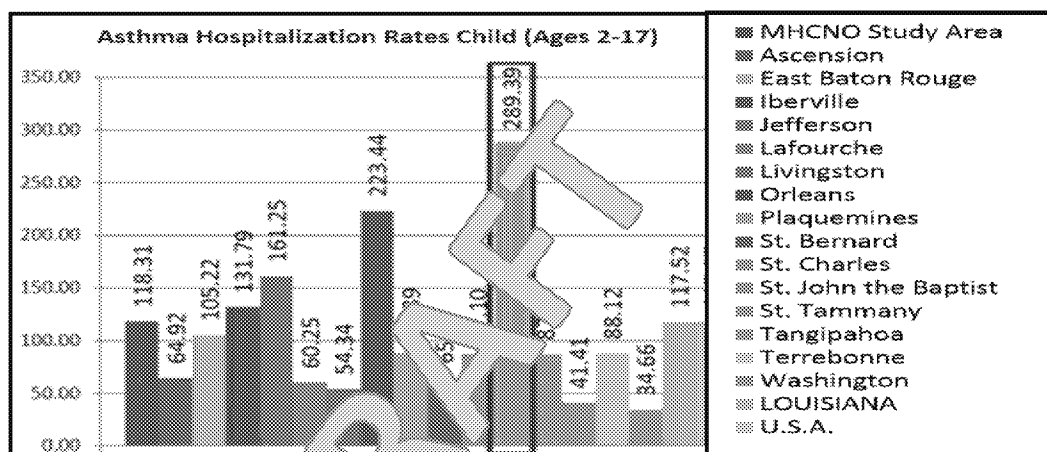


Child Asthma Hospitalizations

Alarming high rates of asthma hospitalizations were reported in two IRS-required hospital community health needs assessments (CHNA) studies that included areas within St. John Parish.

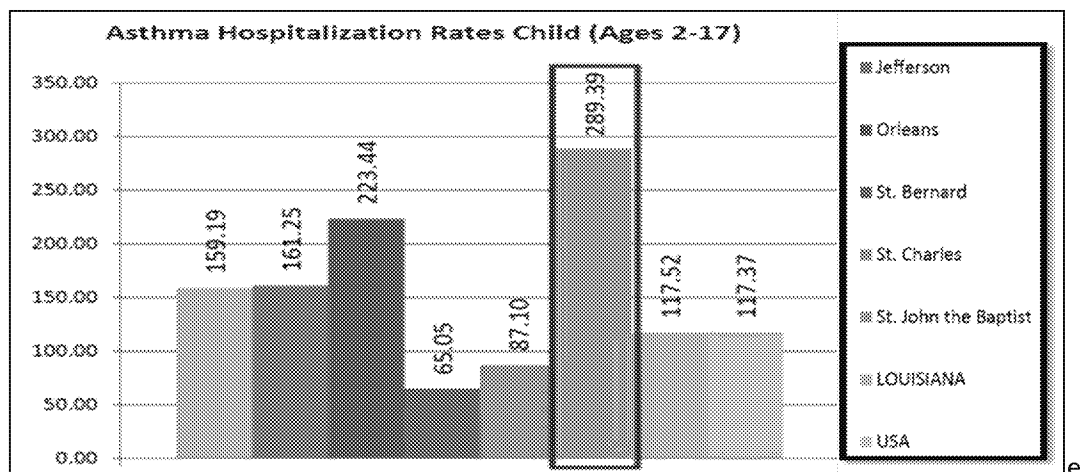
In 2015, a CHNA study conducted by the Metropolitan Hospital Council of New Orleans (MHCNO) found asthma hospitalization rates among St. John children were higher than 14 other parish study areas and more than 2.5 times higher than LA and US rates (Figure B).¹⁰ ***Importantly, the child hospitalization rates are based on federally required reported data from actual hospital patient records. The data is compiled and maintained in a national database by the Agency of Health Care Research and Quality (AHRQ)*** (Figure C).

Figure C



The MHCNO findings were confirmed by the 2015 East Jefferson General Hospital CHNA study of 15 Zip Codes in 6 Parishes (Figure D).

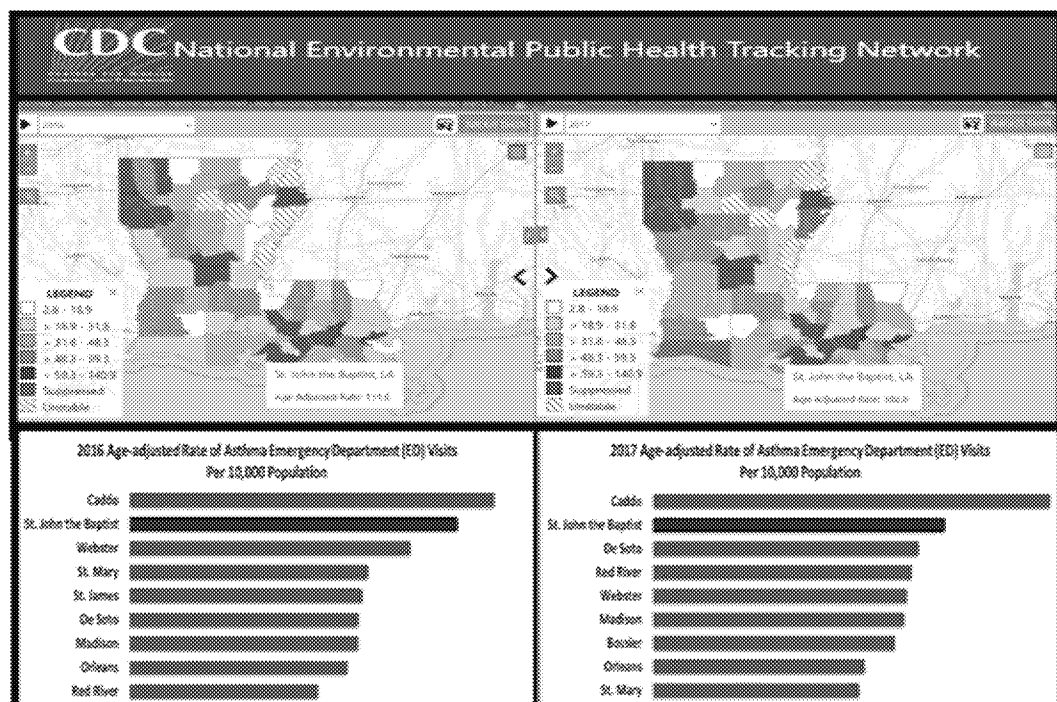
Figure D



According to data from CDC's Environmental Public Health Tracking Network, St. John residents have some of the state's highest rates of asthma emergency department (ED) visits.¹¹ In 2016 and 2017, St. John Parish ranked second among the top ten parishes with the highest rates of asthma hospital emergency department visits in the state (Figure C).

Rates of asthma hospital emergency department visits among St. John residents appear to be

Figure C



increasing. In 2018 and 2019, the CDC reported St. John Parish residents had the highest rates of asthma hospital emergency department visits in the state (Figure C).¹²

Figure C

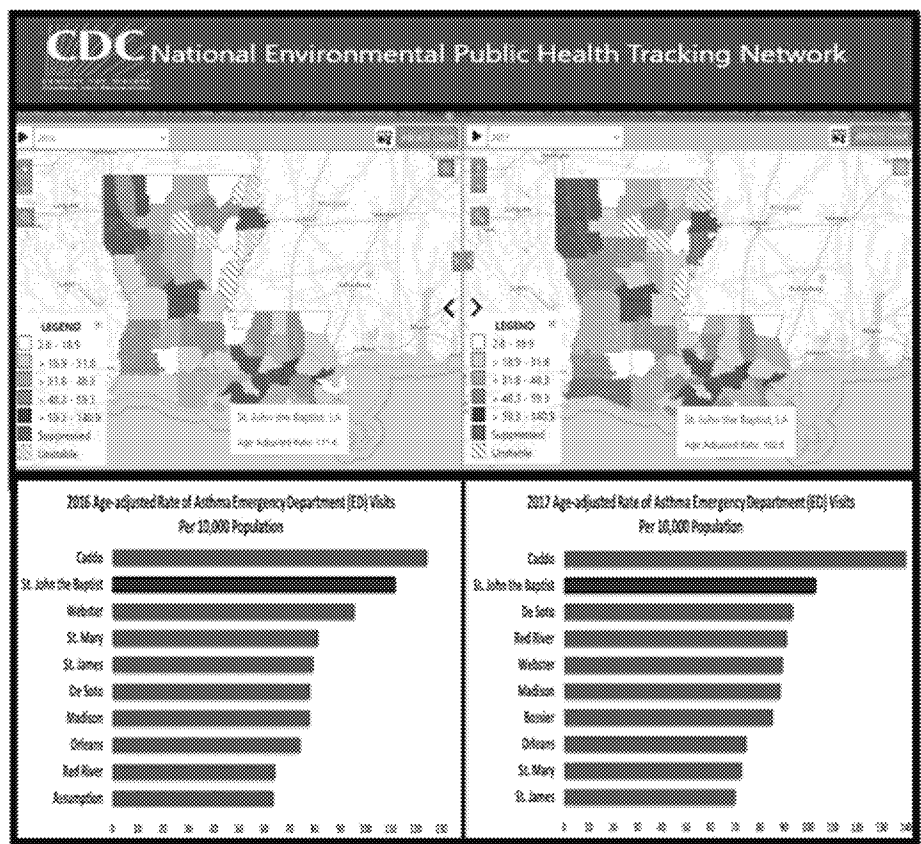
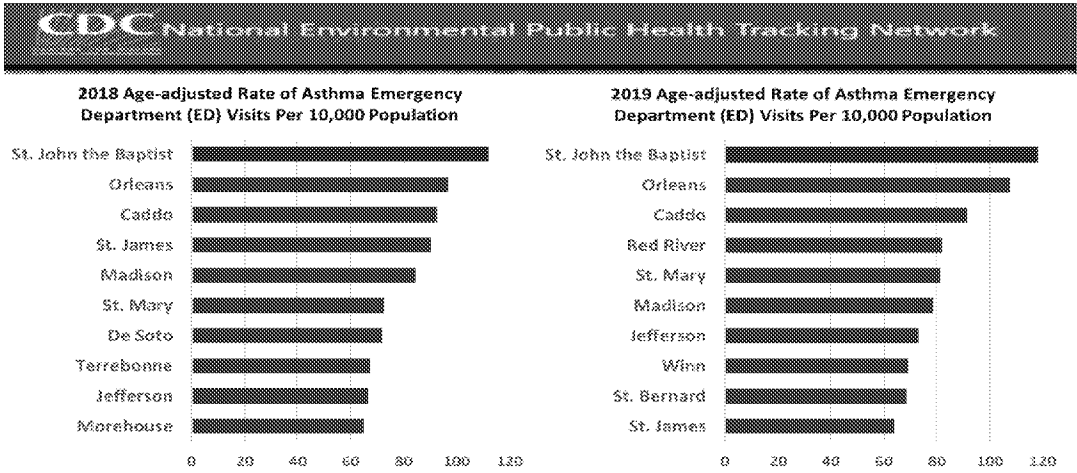


Figure C



More troubling,

Across all years of available data, St. John rates of asthma ED visit rates were significantly higher (1.6 to 2.2 times) than the average state rates (Table 1).

Table 1.

Age-adjusted Rate of Emergency Department (ED) Visits for Asthma Per 10,000 Population*								
	2010	2011	2012	2013	2014	2015	2016	2017
St. John the Baptist	97.7	93.2	103.7	88.4	100.7	97	111.6	102.8
Louisiana	50.3	54.1	59.5	57.9	63.1	58.4	51.7	53.6
Source: CDC National Environmental Public Health Tracking Network. LINK								
*Age Adjusted Rate (Per 10,000 Population), Age Range: All Ages, Gender: All Genders, Years: 2010 – 2017								

¹ Karlson, K. "Cancer Alley Now Coronavirus Alley", SIERRA, The national magazine of the Sierra Club. June 9, 2020. <https://www.sierraclub.org/sierra/cancer-alley-now-coronavirus-alley>

² US Environmental Protection Agency. [2014 National Air Toxics Assessment](#).

³ U.S. Environmental Protection Agency. Policy Assessment for the Review of the National Ambient Air Quality Standards for Particulate Matter. EPA-452/R-20-002. January 2020

⁴ Exposure to air pollution and COVID-19 mortality in the United States. Xiao Wu, Rachel C. Nethery, Benjamin M. Sabath, Danielle Braun, Francesca Dominici. medRxiv 2020.04.05.20054502; doi: <https://doi.org/10.1101/2020.04.05.20054502>.

⁵ Harvard University Bibliography of Related Work. Accessed July 28, 2020 from <https://projects.iq.harvard.edu/covid-pm/home>.

⁶ Petroni M, Hill D, Younes L, et al.. 2020. "Hazardous air pollutant exposure as a contributing factor to COVID-19 mortality in the United States." Environmental Research Letters, 15, 9, Pp. 0940a9.

⁷ Katner A. Independent Assessment of the Environmental Conditions of Public School Locations: St. John the Baptist Parish, LA. March 8, 2021

⁸ U.S. Environmental Protection Agency Office of Inspector General. Management Alert: Prompt Action Needed to Inform Residents Living Near Ethylene Oxide-Emitting Facilities About Health Concerns and Actions to Address Those Concerns. Report No. 20-N-0128. Washington DC: U.S. EPA OIG. https://www.epa.gov/sites/production/files/2020-03/documents/epaoig_20200331-20-n-0128_0.pdf

⁹ Louisiana Department of Environmental Quality. Air Emissions Inventory. LDEQ Point Source Emissions Inventory. <https://www.deq.louisiana.gov/page/eric-public-reports>

¹⁰ Metropolitan Hospital Council of New Orleans (MHCNO). 2015 Community Health Needs Assessment. www.stph.org/upload/docs/AboutUs/MHCNO%202015%20Community%20Health%20Needs%20Assessment.pdf.

¹¹ Centers for Disease Control and Prevention. Environmental Public Health Tracking Network. State Emergency Department Visits data. Accessed From: <https://ephtracking.cdc.gov/DataExplorer>. Accessed on 08/21/2021

¹² Centers for Disease Control and Prevention. Environmental Public Health Tracking Network. State Emergency Department Visits data. Accessed From: <https://ephtracking.cdc.gov/DataExplorer>. Accessed on 08/21/2021